DETAILED ACTION

1.   Claims 1-23 are presented for examination.

2.   It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the examiner and Applicant all future correspondence should include the recommended line numbering.

Claim Rejections - 35 USC § 112

     The following is a quotation of the second paragraph of 35 U.S.C. 112:

     The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

     A.   The claim language in the following claims is not clearly understood:

         i. As to claim 22, lines 3-4, it is not clearly understood how data management service being configured to perform network topology discovery, route creation, and path allocation and base on what standard; Lines 3-10, it is not clearly understood how the steps of "performing network topology discovery,

route creation, and path allocation" relates with the steps of "schedule

underconstrained request".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

4.   Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ruttenberg et al. (U.S. 7,065,586 B2) in view of Kirkby et al. (U.S. 2002/0097747 A1).

5.   As per claim 1, Ruttenberg teaches the invention as claimed including: a

computer-readable medium containing instructions for controlling at least one processor

to perform a method of scheduling resources on a switched underlay network, the

method comprising the steps of:

receiving a request for scheduled resources of the network (network) (receive a

data transfer request and evaluate the data transfer request in view of satisfying

objective in accordance with resources at each node, col. 1, line 65 – col. 2, line 3; col.

7, lines 1-28);

scheduling the request to occur on particular scheduled resources of the network

(col. 5, lines 3-6; col. 16, lines 3-5); and

coordinating with a data source to transmit data over the resources at the
scheduled time (transfer data base on satisfied, col. 3, lines 51-67; col. 5, lines 3-15;
col. 16, line 9-30).

6.   Ruttenberg does not explicitly teach scheduled resources of the <u>switched
underlay network</u>. However, Kirkby teaches scheduled resources of the <u>switched
underlay network</u> (paragraph 21; paragraph 88; paragraph 94).

7.   It would have been obvious to one of ordinary skill in the art at the time the
invention was made to incorporate the teaching of scheduled resources of the <u>switched
underlay network</u> as taught by Kirby because this would provide an efficient utilization of
resources for the various network layer and thus provides of maximizing a revenue
return to an operator of the network.

8.   As to claim 2, Ruttenberg teaches the request has constraints (col. 3, lines 39-
43), and wherein coordinating with the data source comprises ascertaining whether the
data source is able to transmit data in conformance with the constraints (col. 3, lines 43-
47; col. 4 – col. 5, line 2; col. 5, lines 36-45).

9.   As to claim 3, Ruttenberg teaches the step of coordinating takes place before the
step of scheduling (col. 4, line 41 – col. 5, line 4).

10.   As to claim 4, Kirbly teaches the resources are lambdas (paragraph 50;

paragraph 94).

11.   As to claims 5-6, 8 Ruttenberg teaches the request is an underconstrained

request (col. 5, lines 16-34; col. 6, lines 46-67).

12.   As to claim 7, Ruttenberg teaches some of the old requests are underconstrained

requests (col. 6, lines 46-67); and

        Kirkby teaches at least one of the old requests is a constrained request

(paragraph 94).

13.   As to claims 9-10, Ruttenberg teaches inviting resubmission of the canceled old

request (col. 5, lines 16-34).

14.   As to claim 11, Ruttenberg teaches the request specifies the transfer priority,

bandwidth requirements, transfer duration, desired transfer time window, and the time of

submission (col. 3, lines 39-43; col. 6, lines 26-45).

15.   As to claims 12-13, Ruttenberg teaches the step of scheduling the request is only

performed if the method is able to schedule resources within constraints specified in the

request (col. 4, line 41 – col. 5, line 4).

16.   As to claims 14-15, Ruttenberg teaches the step of scheduling the request

enables data transfers to occur on demand, rigidly in the future, loosely in the future,

and in a manner constrained by external events (col. 5, lines 3-15).

17.   As to claim 16, Ruttenberg teaches the step of interfacing with network resources

to reserve bandwidth on the switched underlay network (col. 5, lines 36-48).

18.   As to claim 17, Kirkby teaches of interfacing comprises querying the network for

its topology and the relevant characteristics of links to be used to fulfill the request

(paragraphs 66-67).

19.   As to claim 18, Ruttenberg teaches the step of interfacing comprises planning a

path through the switched underlay network from a data source to a data target, and

reserving bandwidth along the path (col. 11, lines 32-39).

20.   As to claim 19, Ruttenberg teaches the request is a request for scheduled

resources to enable a large data transfer to take place on the switched underlay

network (receive a data transfer request and evaluate the data transfer request in view

of satisfying objective in accordance with resources at each node, (col. 1, line 65 – col.

2, line 3).

21.   As to claim 20, Ruttenberg teaches the step of coordinating large data transfer

between a data source and a data target (col. 1, liens 63-65).

22.   As to claim 21, Ruttenberg teaches the step of coordinating the large data

transfer comprises ascertaining the availability of the data source to transmit the data

and the availability of the data target to receive the data (col. 1, line 63 – col. 2, line 7).

23.   As to claim 22, it is rejected for the same reason as claim 1. In addition,

Ruttenberg teaches a data transfer scheduling service configured to schedule network

resources on a switched underlay network, comprising:

        a network resource manager, said network resource manager being configured

to interface network devices in the network to schedule network resources on the

switched underlay network (col.7, lines 1-13);

        wherein at least one of the data management service and the network resource

manager is configured to schedule underconstrained requests for the network resources

on the switched underlay network (col. 5, lines 3-6; col. 5, lines .16-34; col. 6, lines 46-

67; col. 16, lines 3-5).

        Kirkby teaches a data management service, said data management service

being configured to perform network topology discovery, route creation, and path

allocation (paragraph 66-67; paragraphs 77, paragraphs 97-100).

24.   As to claim 23, Ruttenberg teaches at least one of the data management service

and the network resource manager is configured to obtain information associated with

the availability of a data source and optimize a schedule of scheduled underconstrained

requests (col. 4, line 41 – col. 5, line 15).

Response to the argument

23.   Applicant's arguments filed 1/22/08 for claims 1-23 have been considered but are

moot in view of the new ground(s) rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated

from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

24.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Camquy Truong whose telephone number is (571) 272-
3773. The examiner can normally be reached on 8AM – 5PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-3756.

        Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for published
applications may be obtained from either Private PAIR of Public PAIP. Status
information for unpublished applications is available through Private PAIR only. For
more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you
have questions on access to the Private PAIP system, contact the Electronic Business
Center (EBC) at 866-217-9197(toll-free).

Camquy Truong
March 25, 2008

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195